

SPECIES INFORMATION SYSTEM

USER'S GUIDE

**National Marine Fisheries Service
Office of Science and Technology**

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VERSION V1.0



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1.0 Introduction

1.1 System Background

The Species Information System (SIS) will create a storage system of data that will collect common and consistent species information across National Marine Fisheries Services (NMFS) regions, in support of services NMFS provides to fisheries and management services. SIS will also link to new and existing information from other distributed databases.

SIS provides users with web applications for data entry, retrieval, and report generation. SIS directly supports the Office of Sustainable Fisheries' (SF) *Annual Report to Congress on the Status of U.S. Fisheries* as well as other NMFS reporting requirements.

SIS will provide the most up-to-date information on the stocks it tracks. In order for the system to be maintained on a real-time basis, the Science Centers and Regions must input data as soon as it becomes available. If current information has not been entered into the database, the present state of knowledge will not be available to the users. Timeliness of reporting is discussed in Sections 6 and 7.

1.2 Document Purpose

The purpose of this document is to provide detailed guidance for SIS users performing data entry, data retrieval, and report generation functions. Text instructions and screen shots are provided to guide users in performing system tasks. Business rules relating to data entry and system use are also outlined.

1.3 Contact Information

If any assistance is required pertaining to the Species Information System, please contact the Office of Science and Technology via the following phone number:

NMFS/ST6 IT team: (301) 713-2328

2.0 Access Privileges

Access to data is determined by user's roles. The system defines the following roles.

SIS_ADMIN_AUTHOR: allowed to access the Admin menu to create, update, and delete Species records, Stock Records, Stock Group Records, FMP records, Stock Area records, and Jurisdiction records.

SIS_ADMIN_VIEWER: allowed to access the Admin menu to view Species records, Stock Records, Stock Group Records, FMP records, Stock Area records, and Jurisdiction records.

SIS_ASMT_AUTHOR: allowed to create, update, and delete Assessment records.

SIS_ASMT_VIEWER: allowed to view Assessment records.

SIS_SD_AUTHOR: allowed to create, update, and delete Status Determination records.

SIS_SD_VIEWER: allowed to view Status Determination records.

SIS_OVFG_SD_AUTHOR: allowed to create, update, and delete Overfishing Status Determination records.

SIS_OVFG_SD_VIEWER: allowed to view Overfishing Status Determination records.

SIS_OVFD_SD_AUTHOR: allowed to create, update, and delete Overfished Status Determination records.

SIS_OVFD_SD_VIEWER: allowed to view Overfished Status Determination records.

SIS_REPORT_AUTHOR: allowed to create, update, and delete Entity Alias records and Report Entity List records; allowed to generate reports.

SIS_REPORT_VIEWER: allowed to view Entity Alias records and Report Entity List records; allowed to generate reports.

Individual user's access may be defined by multiple roles (i.e.

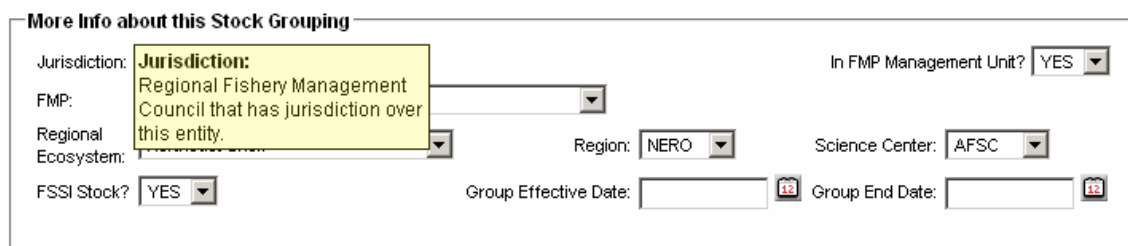
SIS_OVFG_SD_AUTHOR, SIS_OVFD_SD_AUTHOR, and SIS_SD_AUTHOR).

3.0 System Characteristics

SIS has several features to assist users in accomplishing their tasks. These features include: menus, toolbars, help tips, error messages, working mode switch, data grid, and online user manuals.

3.1 Helpful Hints

Hints are used throughout all SIS pages. They appear when the user places the mouse over the label of a particular field. Hints assist the user in gaining a greater understanding of the purpose of that field.



The screenshot shows a web form titled "More Info about this Stock Grouping". It contains several fields: "Jurisdiction:" (with a yellow tooltip box), "FMP:", "Regional Ecosystem:", "FSSI Stock?" (with a "YES" dropdown), "Region:" (with a "NERO" dropdown), "Science Center:" (with an "AFSC" dropdown), "In FMP Management Unit?" (with a "YES" dropdown), "Group Effective Date:" (with a calendar icon), and "Group End Date:" (with a calendar icon). The tooltip box for "Jurisdiction:" contains the text: "Jurisdiction: Regional Fishery Management Council that has jurisdiction over this entity."

Figure 3.1 Screen shot displaying a helpful hint associated with the Jurisdiction field.

3.2 Confirmation Messages

Whenever users perform an action such as saving a new record, updating existing records, or deleting some records, a message asking for confirmation of the action will be displayed.

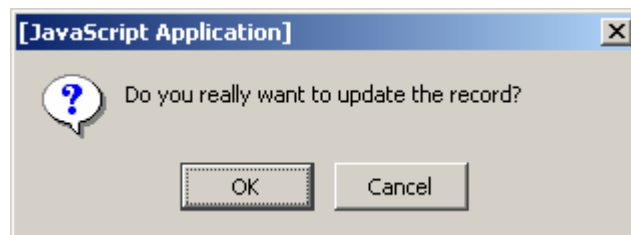


Figure 3.2a Screen shot displaying a message asking for confirmation of action.

Whenever users complete an action such as saving a new record, updating existing records, or deleting some records, a message indicating the action is completed will be displayed.

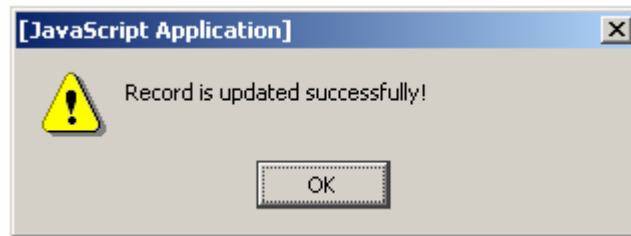
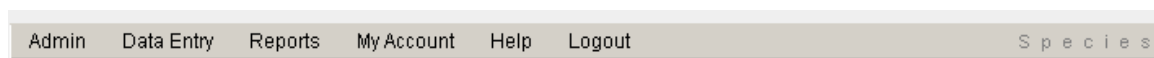


Figure 3.2b Screen shot displaying a message indicating the success of action.

3.3 Menu

The SIS menu allows the user to access the system's modules: Admin Data Entry, Assessment Data Entry, Status Determination Data Entry, Report Generation, etc. Under each menu item, there is a sub-menu associated with them. For example, if the menu item "Admin" is selected, the Admin submenu will be displayed with submenu listed such as: Species, Stock, Stock Group, Stock Areas, Jurisdictions, FMPs. User then can select a further desired action. Assessment (Section 6) and Status Determination (Section 7) applications are both located under 'Data Entry' on the main menu.

Main Menu



Submenu

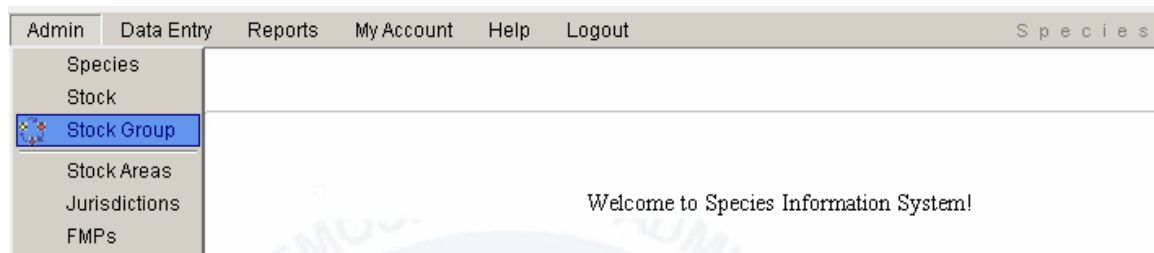


Figure 3.3 Screen shot displaying the main menu bar and associated submenu.

3.4 Toolbar

Along with the standard attached menu, each SIS module has an attached toolbar shown on the top of each screen (below the main menu bar). The toolbar consists of buttons specific to the module.

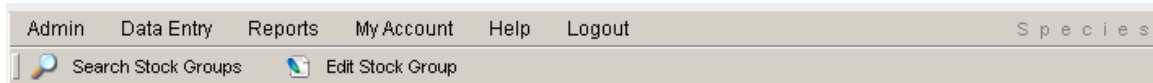


Figure 3.4 Screen shot of the attached toolbar associated with the stock group application.

3.5 Screen Layout and Mode Switch

Below the Menu and the toolbar, SIS screen is divided into two frames. The left side is the Search Frame and the right side is the Edit Frame.

To change the size of the Search Frame and Edit Frame, use the following approaches:

1. **Change the size of the Search or Edit frames.** Drag the border bar between the Search Frame and the Edit Frame to increase or decrease the size of the frame.

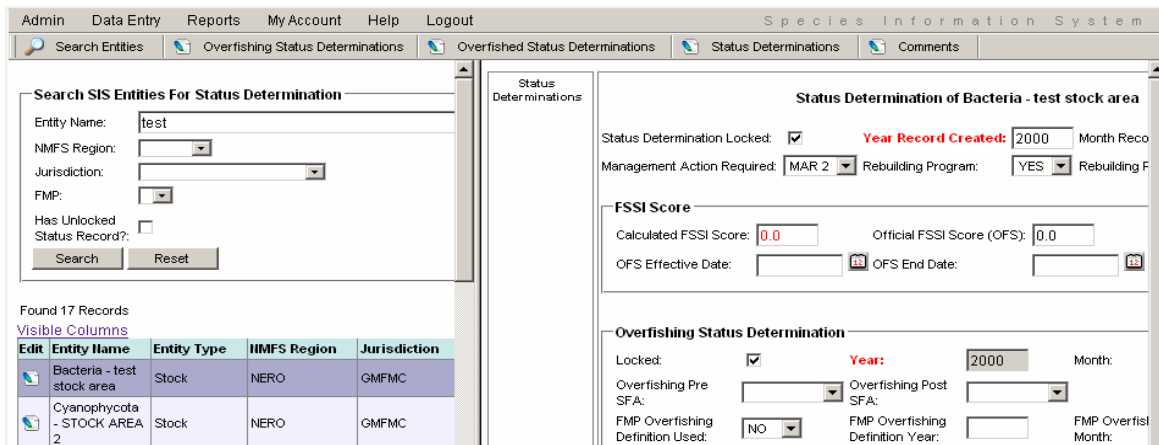

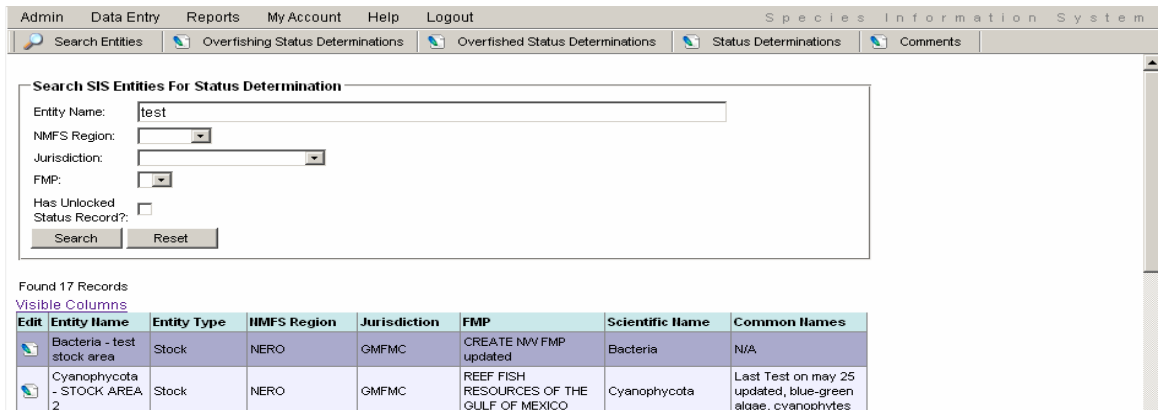


Figure 3.5a Screen shot showing the border bar between the Search and Edit frames.

2. Expand the Search frame. Click the “Search XXX” button on the toolbar, for example “Search Entities”  Search Entities . The search frame will expand and the edit frame will be hidden.



Search SIS Entities For Status Determination

Entity Name:

NMFS Region:

Jurisdiction:

FMP:


Has Unlocked Status Record?: ☐

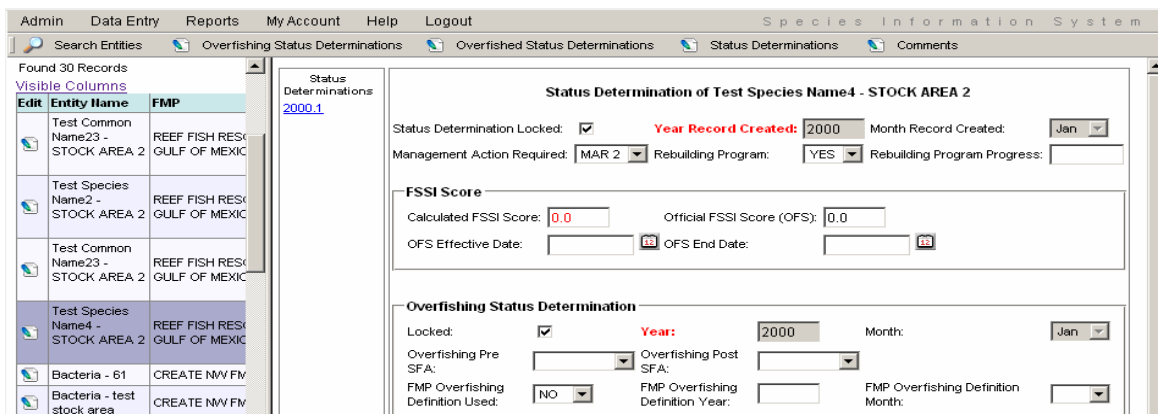
Found 17 Records

[Visible Columns](#)

Edit	Entity Name	Entity Type	NMFS Region	Jurisdiction	FMP	Scientific Name	Common Names
	Bacteria - test stock area	Stock	NERO	GMFMC	CREATE NW FMP updated	Bacteria	N/A
	Cyanophycota - STOCK AREA 2	Stock	NERO	GMFMC	REEF FISH RESOURCES OF THE GULF OF MEXICO	Cyanophycota	Last Test on may 25 updated, blue-green algae, cyanophytes

Figure 3.5b Screen shot showing the Search frame expanded to full screen.

3. Restore the Edit Frame. Click on the Edit Button (such as Status Determination  Status Determinations) on the toolbar to restore the edit frame to its default size, which shows all input fields.



Found 30 Records

[Visible Columns](#)

Edit	Entity Name	FMP
	Test Common Name23 - STOCK AREA 2	REEF FISH RES/ GULF OF MEXIC
	Test Species Name2 - STOCK AREA 2	REEF FISH RES/ GULF OF MEXIC
	Test Common Name23 - STOCK AREA 2	REEF FISH RES/ GULF OF MEXIC
	Test Species Name4 - STOCK AREA 2	REEF FISH RES/ GULF OF MEXIC
	Bacteria - 61	CREATE NW FM
	Bacteria - test stock area	CREATE NW FM

Status Determinations: [2000.1](#)

Status Determination of Test Species Name4 - STOCK AREA 2

Status Determination Locked: ☒ Year Record Created: 2000 Month Record Created: Jan

Management Action Required: MAR 2 Rebuilding Program: YES Rebuilding Program Progress:

FSSI Score

Calculated FSSI Score: 0.0 Official FSSI Score (OFS): 0.0

OFS Effective Date: OFS End Date:

Overfishing Status Determination

Locked: ☒ Year: 2000 Month: Jan

Overfishing Pre SFA: Overfishing Post SFA:

FMP Overfishing Definition Used: NO FMP Overfishing Definition Year: FMP Overfishing Definition Month:

Figure 3.5c Screen shot showing the restored Edit frame.

3.6 Search Result Grid

SIS uses a grid to display search results. Below is an example. With this type of grid, users will have more control of how to view the search result.

Found 30 Records

[Visible Columns](#)












Edit	Entity Name	Entity Type	IIMFS Region	Jurisdiction	FMP	Scientific Name	Common Names
	Bacteria - 61	Stock	NERO	GMFMC	CREATE NW FMP updated	Bacteria	N/A
	Bacteria - STOCK AREA 1	Stock	NERO	GMFMC	REEF FISH RESOURCES OF THE GULF OF MEXICO	Bacteria	N/A
	Bacteria - test stock area	Stock	NERO	GMFMC	CREATE NW FMP updated	Bacteria	N/A
	Complex has species with vernacular	Stock Group	NERO	GMFMC	REEF FISH RESOURCES OF THE GULF OF MEXICO	N/A	N/A
	Cyanophycota - STOCK AREA 2	Stock	NERO	GMFMC	REEF FISH RESOURCES OF THE GULF OF MEXICO	Cyanophycota	Last Test on may 25 updated, blue-green algae, cyanophytes
	My new Stock Complex	Stock Group	NERO	GMFMC	REEF FISH RESOURCES OF THE GULF OF MEXICO	N/A	N/A

Figure 3.6a Screen shot of search results display grid.







1. **Select a record to view/edit.** Click on the edit icon  of a record and the record will be displayed in the edit frame to view/edit.

Admin Data Entry Reports My Account Help Logout Species Information System

Search Entities  Overfishing Status Determinations  Overfished Status Determinations  Status Determinations  Comments

Found 30 Records

[Visible Columns](#)

Edit	Entity Name	FMP
	Test Common Name23 - STOCK AREA 2	REEF FISH RES GULF OF MEXIC
	Test Species Name2 - STOCK AREA 2	REEF FISH RES GULF OF MEXIC
	Test Common Name23 - STOCK AREA 2	REEF FISH RES GULF OF MEXIC
	Test Species Name4 - STOCK AREA 2	REEF FISH RES GULF OF MEXIC
	Bacteria - 61	CREATE NW FMP
	Bacteria - test stock area	CREATE NW FMP

Status Determinations [2000.1](#)

Status Determination of Test Species Name4 - STOCK AREA 2

Status Determination Locked: ☒ **Year Record Created:** 2000 **Month Record Created:** Jan

Management Action Required: MAR 2 Rebuilding Program: YES Rebuilding Program Progress:

FSSI Score

Calculated FSSI Score: 0.0 Official FSSI Score (OFS): 0.0

OFS Effective Date: OFS End Date:

Overfishing Status Determination

Locked: ☒ **Year:** 2000 **Month:** Jan

Overfishing Pre SFA: Overfishing Post SFA:

FMP Overfishing Definition Used: NO FMP Overfishing Definition Year: FMP Overfishing Definition Month:

Figure 3.6b Screen shot of the edit icons in the search results grid and the record displayed by clicking it.

2. **Change the order of the columns.** Move your mouse over the column header to be moved. Press and hold the mouse button to change the header to red, and then drag to the destination column. Release the mouse to drop the column into the new position.

Found 30 Records

Visible Columns





Edit	Entity Name	FMP	Entity Type	HMFS Region	Jurisdiction	Scientific Name	Common Names
	Bacteria - 61	CREATE NW FMP updated	Stock	NERO	GMFMC	Bacteria	N/A
	Bacteria - STOCK AREA 1	REEF FISH RESOURCES OF THE GULF OF MEXICO	Stock	NERO	GMFMC	Bacteria	N/A
	Bacteria - test stock area	CREATE NW FMP updated	Stock	NERO	GMFMC	Bacteria	N/A
	Complex has species with vernacular	REEF FISH RESOURCES OF THE GULF OF MEXICO	Stock Group	NERO	GMFMC	N/A	N/A

Figure 3.6c Screen shot of the search results display grid with the FMP column moved from its normal position to next to the Entity Name column.

3. **Change the width of the columns.** Move the mouse over to a separator bar between two columns. Press and hold the mouse to turn the bar red, and then drag the bar to the left or right to the desired width. Release the mouse.

Found 30 Records

Visible Columns





Edit	Entity Name	FMP	Entity Type	HMFS Region	Jurisdiction	Scientific Name	Common Names
	Bacteria - 61	CREATE NW FMP updated	Stock	NERO	GMFMC	Bacteria	N/A
	Bacteria - STOCK AREA 1	REEF FISH RESOURCES OF THE GULF OF MEXICO	Stock	NERO	GMFMC	Bacteria	N/A
	Bacteria - test stock area	CREATE NW FMP updated	Stock	NERO	GMFMC	Bacteria	N/A
	Complex has species with vernacular	REEF FISH RESOURCES OF THE GULF OF MEXICO	Stock Group	NERO	GMFMC	N/A	N/A

Figure 3.6d Screen shot showing the FMP column being resized.

4. **Sort on Columns.** Click and release the mouse on a column header to sort the data by that data column (alternatively in ascending and descending order).

Found 30 Records

Visible Columns








Edit	Entity Name	FMP	Entity Type	NMFS Region	Jurisdiction	Scientific Name	Common Names
	Stock Group with ESA and FED	COASTAL MIGRATORY PELAGICS OF THE GULF OF MEXICO AND SOUTH ATLANTIC	Stock Group	NERO	SAFMC / GMFMC	N/A	N/A
	asd new	COASTAL MIGRATORY PELAGICS OF THE GULF OF MEXICO AND SOUTH ATLANTIC	Stock Group	NERO	SAFMC / GMFMC	N/A	N/A
	test 2	COASTAL MIGRATORY PELAGICS OF THE GULF OF MEXICO AND SOUTH ATLANTIC	Stock Group	PIRO	SAFMC / GMFMC	N/A	N/A
	Test Common Name3 - STOCK AREA 3	COASTAL MIGRATORY PELAGICS OF THE GULF OF MEXICO AND SOUTH ATLANTIC	Stock	PIRO	SAFMC / GMFMC	Test Species Name3	N/A

Figure 3.6e Screen shot of the FMP data column sorted in ascending order.

5. **Select columns to hide/show.** Click on the “Visible Columns” link to show a pop-up window displaying the names of the columns. Check/uncheck the column(s) to show/hide.

Found 30 Records

Visible Columns

Edit	Entity Name	FMP	Entity Type	NMFS Region	Jurisdiction	Scientific Name
	Test Name23 - STOCK AREA 2	REEF FISH RESOURCES OF THE GULF OF MEXICO	Stock	NERO	GMFMC	Test Species Name23
	Test Name23 - STOCK AREA 2	REEF FISH RESOURCES OF THE GULF OF MEXICO	Stock	NERO	GMFMC	Test Species Name2
	Test Name23 - STOCK AREA 2	REEF FISH RESOURCES OF THE GULF OF MEXICO	Stock	NERO	GMFMC	Test Species Name23

☒ Edit
☒ Entity Name
☒ Entity Type
☒ NMFS Region
☒ Jurisdiction
☒ FMP
☒ Scientific Name
☐ Common Names

Figure 3.6f Screen shot showing the visible columns pop-up.

4.0 Manage SIS records

All SIS records are managed in a similar fashion. This section describes the common approach to create, search, retrieve, update, and delete records.

4.1 Create a New Record

1. Click the New button in the Edit Frame.
2. Enter data.
3. Click the Save button to commit to the database.

4.2 Search Existing Records

1. Click the Search XXX button in the Toolbar.
2. Enter search criteria.
3. Hit Enter or click the Search button.
4. Search results will be displayed in a grid.

4.3 Retrieve an Existing Record

1. Search the record first (refer to “Search Existing Records” above).
2. Click the Edit icon next to the record.
3. The record will be displayed in the Edit Frame.

4.4 Edit an Existing Record

1. Retrieve the record first (refer to “Retrieve an Existing Record” on page 11).
2. Make changes. If errors are made, the Reload button can be used to revert back to the last saved version of the record.
3. Click the update button to commit the changes to the database.

NOTE: Some records may be locked and Users will need to contact an Administrator to unlock the record before it can be edited (see Section 7.2).

4.5 Delete an Existing Record

1. Retrieve the record first (refer to “Retrieve an Existing Record” on page 11).
2. Click the “Delete” button.
3. Confirm that the record should be deleted.

NOTE: Some records may be locked and Users will need to contact an Administrator to unlock the record before it can be deleted (see Section 7.2).

5.0 Admin Data

Access to Admin data (Species, Stock, Stock Group, FMP, Jurisdiction, and Stock Area information) is limited to users with the following roles: SIS_ADMIN_AUTHOR and SIS_ADMIN_VIEWER. For questions, please contact Kristan Blackhart (ST4) at (206) 302-2479.

6.0 Assessment Data

It is the responsibility of the selected Science Center representatives to enter the data for this frame. New stock assessments should be entered into the SIS database within 10 business days after the completion of an assessment.

Once an assessment has been completed and entered into SIS, the Science Center representative must contact the selected Regional Office representative to let them know the assessment data is available. This step should be completed immediately after the data entry into SIS is complete. The Regional Office representative will then update status determination information based on the assessment (see Section 7).

6.1 What is a stock assessment?

Stock assessment refers to the processes of collecting, analyzing, and reporting demographic information for the purpose of determining the effects of fishing on fish populations. Assessments involve some sort of quantitative data analysis and provide information necessary to estimate the current abundance and exploitation rates of resources relative to predefined goals. Simple data reports (catch reports, report of abundance index from a recent fishery-independent survey, report on a data workshop for data that could be used in an assessment) do not qualify as assessments and do not need to be entered into SIS. The following do count as assessments and should be entered into SIS: update to a trend analysis using the most recent catch and abundance index to provide an updated status report; interpretation of the most recent survey abundance data as absolute biomass, multiplying by target exploitation rate, and providing updated quota recommendations; incorporation of the most recent data into a dynamic model and using the results to update status determinations, quotas, etc.

6.2 When is an Assessment final?

Stock assessments are considered final when the scientific review is complete and the results are available for use as advice to managers. Assessments can be entered before the final assessment report is available; however, in these cases the record will need to be updated with the correct citation for the assessment report when it is available.

6.3 Rejected Assessments

Stock assessments that do not pass their technical review should still be entered into SIS. Data related to F and biomass should not be entered for these records, but other data should be included. For the citation field, enter information about the review (example: Draft was presented to SAW/SARC 24). If assessments are only partially accepted, the information entered should only reflect the accepted portions of the assessment.

6.4 Locate an Entity

1. Click on “Data Entry” on the menu and then click on the “Assessment” entry.
2. Search for the Entity that you would like to enter data for by using search criteria or selecting a Report Entity List.
3. In the search result grid, click on the Edit icon of the entity.
4. The Edit Frame is then displayed with the Entity’s name shown at the top.
5. If the Entity has previous assessment information entered, the date (year.month) of the existing records will be displayed as links in the “Assessment List” panel on the left-hand side of the assessment window. The most recent assessment record will be displayed in the Assessment form.

The screenshot displays the 'Species Information System' interface. At the top, there is a navigation bar with links: Admin, Data Entry, Reports, My Account, Help, and Logout. Below this is a sub-navigation bar with icons and labels for Search Entities, Assessments, and Comments. The main content area is divided into two panels. The left panel, titled 'Assessments', shows a list of assessment records for 'Test Species Name2 - STOCK AREA 2' and 'Test Species Name4 - STOCK AREA 2'. The right panel, titled 'Assessment of Test Species Name4 - STOCK AREA 2', displays the details of the selected assessment. The details include: Asmt Year: 2002, Asmt Month: Feb, Last Data Year: 2002, Update Type: New, Review Type: Accept, Life History: 1 - size, Frequency: 1 - infrequent, Level: 2 - simple life history equilibrium models, Catch: 1 - landed catch, Abundance: 2 - precise, frequent survey with age composition, Citation: (empty field), and Comment: (empty field).

Figure 6.4 Screen shot showing an existing assessment displayed for the selected stock.

6.5 Create an Assessment Record

1. Click on the “New” button at the bottom of the Edit Frame.
2. Enter assessment data.
3. Click the “Save” button to save the new assessment record.
4. The “Clone” button can be used to create a new record with identical information to the currently displayed record. Update the appropriate fields (be sure to enter the correct date information) and click Save.

6.6 Edit an Existing Assessment Record

1. From the “Assessment List”, click on the “year.month” link of the record to be updated.
2. Make changes. If errors are made while updating a record, the “Reload” button will revert all fields back to the original record.
3. Click the “Update” button to save changes.

6.7 Assessment Data Fields

1. Assessment Year and Assessment Month: The dates entered should be when the assessment completes its scientific review and is available for advice to management.
2. Assessment Model: Assessment model accepted by the scientific review process and used to complete the stock assessment.
3. Model Version: Version of the assessment model accepted by the scientific review process and used to complete the stock assessment.
4. Lead Lab: NMFS Laboratory or outside agency with lead responsibility for stock assessment.
5. Point of Contact: Full name of person to contact with questions regarding the assessment.
6. Last Data Year: The most recent year of data included in the assessment.
7. Update Type
 1. New: The stock has never been assessed before.
 2. Benchmark: Assessments that are substantially different from the previous assessment. Changes could include a new/updated model or inclusion of data not previously available or used.
 3. Full Update: Assessments that have included the most recent catch and/or abundance index data to provide updated status determinations or quota recommendations. Only minor reworking of the existing assessment model and no substantial changes to the methods of interpretation have occurred; typically takes a few weeks to prepare.
 4. Partial Update: Executive summaries that basically just advance the assessment projections by one year, perhaps adding the most recent year of catch data in the process. Occur in years without surveys and typically take only a few hours to prepare, but are used to make management decisions and status determinations.
8. Review Type
 1. Accept: Assessment was accepted by the scientific review committee and is available for use as advice to management.
 2. Reject: Assessment was rejected by the scientific review committee and will not be used as advice for management.
 3. Remand: Assessment was sent back by the scientific review committee for changes or re-evaluation.
 4. Not reviewed: Assessment was not reviewed by a scientific or technical review committee.
9. Levels of Catch Data
 - 0—No catch data.
 - 1—Landed catch provides a minimum estimate of fishery removals and is typically obtained from mandatory landing receipts. In some cases, particularly recreational fisheries, a statistical sampling program is used to expand estimates of sampled catch up to the total angling population.
 - 2—Catch size composition provides a measure of the sizes of fish being impacted by the fishery, and when tracked over time can provide an index of recruitment to the fishery and total mortality rates.

3—Spatial data on catch from logbooks can provide information on range extensions and contractions, and other changes in stock or fleet distribution.

4—Catch age composition requires the development of age determination techniques and an investment in the collection and processing of appropriate samples. The result is much greater stock assessment accuracy than can be obtained with size composition data alone.

5—Accurate and complete data on total removals (including landed catch, discards, bycatch in other fisheries, and cryptic mortality induced by fishing gear contact) will contribute to accurate stock assessment results. An at-sea observer program can monitor total removals, cross-check logbook data, and collect site-specific biological samples. In many fisheries, the relative merits of observer programs for collecting data on total removals and /or age composition data may warrant consideration before or instead of investing in a fishery logbook program.

10. Levels of Abundance Data

0—No abundance data.

1—Relative abundance index from fishery catch per unit effort or an imprecise, infrequent survey. Another Level 1 situation would be a single survey from which an estimate of absolute abundance has been made. At this low level of information there will only be a limited ability to track changes in stock abundance because of uncertainties in the calibration of the index, or a high level of noise in the data relative to the magnitude of the expected changes in stock abundance.

2—Precise, frequent surveys with age composition will provide more accurate tracking of changes in stock abundance and the associated age composition data will enable better estimation of historical and current levels of recruitment.

3—Research surveys with known or estimated catchability, acoustic surveys with known or estimated target strengths, and statistically-designed tagging studies can provide estimates of absolute abundance. This is especially valuable when the time series of the survey is so short that no trend is detectable.

4—Habitat-specific surveys refine the concept of stratified random surveys so that survey results are more closely associated with particular habitats. The result is improved knowledge of the relationship between fish assemblages and habitat features. In addition, these surveys use alternative methodologies to extend survey coverage into all relevant habitats.

11. Levels of Life History data

0—No life history data.

1—The size composition of harvested fish provides a simple index of a stock's growth potential and vulnerability to overharvesting.

2—Basic demographic parameters such as age, growth, and maturity rates provide information on productivity and natural mortality.

3—Seasonal and spatial patterns of mixing, migration, and variability in life history characteristics, especially growth and maturity, provides improved understanding of how a population responds to its environment.

4—Food habits information defines the predator-prey and competitive relationships within the fish community, thus providing a first step towards direct estimation of natural mortality rates and ecologically-based harvest recommendations.

12. Levels of Stock Assessment Models

0—Although some data may have been collected on this species, these data have not been examined beyond simple time series plots or tabulations of catch.

1—Either:

a) time series of a (potentially imprecise) abundance index calculated as raw or standardized CPUE in commercial, recreational, or survey vessel data, or

b) onetime estimation of absolute abundance made on the basis of tagging results, a depletion study, or some form of calibrated survey.

2—Simple equilibrium models applied to life history information; for example, yield per recruit or spawner per recruit functions based on mortality, growth, and maturity schedules; catch curve analysis; survival analysis; or length-based cohort analysis.

3—Equilibrium and non-equilibrium production models aggregated both spatially and over age and size; for example, the Schaefer model and the Pella-Tomlinson model.

4—Size, stage, or age structured models such as cohort analysis and untuned and tuned VPA analyses, age-structured production models, CAGEAN, stock synthesis, size or age-structured Bayesian models, modified DeLury methods, and size or age-based mark-recapture models.

5—Assessment models incorporating ecosystem considerations and spatial and seasonal analyses in addition to Levels 3 or 4. Ecosystem considerations include one or more of the following:

a) one or more time-varying parameters, either estimated as constrained series, or driven by environmental variables,

b) multiple target species as state variables in the model, or

c) living components of the ecosystem other than the target species included as state variables in the model.

13. Levels of Stock Assessment Frequency

0—Never: an assessment has never been conducted.

1—Infrequent: the most recent assessment was conducted more than three years ago.

2—Frequent or recent: the most recent assessment was conducted within the last three years but is not conducted annually.

3—Annual or more: assessments are conducted at least annually.

14. Citation: Please include a complete citation for the assessment document so users can locate the source document if necessary. If the document is available in electronic format, include a web address in addition to the citation.

15. F (fishing mortality) Related Fields: this data will be used mainly for calculation of stock's FSSI scores.

a. Minimum/Maximum/Best F Estimates: Best F Estimate should always be filled in unless no point estimate of F is available. If no point estimate is available, fill in the Minimum and Maximum fields to capture the range of F values. If both a point estimate and a range are available, fill in all fields.


- b. F Year: The year of the F estimate(s).
 - c. Flimit, Fmsy, and Ftarget: Fill in these values when available.
 - d. F/Flimit, F/Fmsy, and F/Ftarget: These fields will be automatically calculated when values are entered in the associated fields. If no automatic calculation can be made (for instance, if no point estimate of F is available), please fill these fields in by hand if available.
 - e. F/Flimit/Fmsy/Ftarget Basis: These fields have drop-down menus with common options available, but can also accommodate text entries (see section 6.8 below).
 - f. F Unit: Select the appropriate unit of measure for the F values.
16. B (biomass) Related Fields: this data will be used mainly for calculation of stock's FSSI scores.
- a. Minimum/Maximum/Best B Estimates: Best B Estimate should always be filled in unless no point estimate of biomass is available. If no point estimate is available, fill in the Minimum and Maximum fields to capture the range of biomass values. If both a point estimate and a range are available, fill in all fields.
 - b. B Year: The year of the biomass estimate(s).
 - c. Blimit and Bmsy: Fill in these values when available.
 - d. B/Blimit, B/Bmsy: These fields will be automatically calculated when values are entered in the associated fields. If no automatic calculation can be made (for instance, if no point estimate of biomass is available), please fill these fields in by hand if available.
 - e. B/Blimit/Bmsy Basis: These fields have drop-down menus with common options available, but can also accommodate text entries (see section 8.5 below).
 - f. MSY: Enter the value of the stock's maximum sustainable yield.
 - g. Stock Level to Bmsy: Enter the stock's biomass level relative to the stock's biomass at MSY. A drop-down list provides options.
 - i. Below: $B < 0.8B_{msy}$
 - ii. Near: $0.8B_{msy} < B < B_{msy}$
 - iii. Above: $B > B_{msy}$
 - iv. Unknown: stock's current biomass, or biomass at MSY, is unknown
 - h. B Unit: Select the appropriate unit of measure for the biomass values.

6.8 Edit Dropdown List for Basis fields

Dropdown lists for F- and B-related basis fields in the Assessment form are editable so that new items can be input into the field. Text entries should only be made when no existing entry on the dropdown list matches the assessment in question.

F Basis :	<input type="text" value="add a new item"/>	F Basis :	<input type="text" value="this is my new option"/>
F/F _{limit} :	<input type="text" value="0.0"/>	F/F _{limit} :	<input type="text" value="this is my new option"/>
F/F _{max} :	<input type="text" value="0 0"/>	F/F _{max} :	<input type="text" value="fmax"/>
		F/F _{target} :	<input type="text" value="ftarget"/>

Figure 6.8 Screen shot showing how to add items to dropdown lists.

1. Open up the dropdown list by clicking on .
2. Highlight the “add a new item” option.
3. Change “add a new item” to the value that needs to be added.

7.0 Status Determination Data

It is the responsibility of the official Regional contact to enter the data for the Status Determination Data frame. After the Science Center contact has entered new data in the Assessment frame, he/she will notify the official Regional contact to let them know new assessment data is available. The Regional contact should then create new Overfishing/Overfished records. Updates should be made no later than 1 week after being contacted by the stock assessment Science Center contact. Delays in data entry for the Status Determination frame could result in status determinations that are not up-to-date.

Regional contacts should create new overfishing and overfished records whenever a new stock assessment is completed, creating a link to the new stock assessment. Even if the new assessment did not result in a change to the overfishing/overfished status determination, a new record should be created so the newest overfishing/overfished record is linked to the most recent stock assessment. This is also important because the FSSI score is based, in part, on the latest B/Bmsy estimate from the most recent stock assessment. Thus, even if the overfishing/overfished status does not change as the result of a new stock assessment, the FSSI score may change as a result of a new B/Bmsy estimate.

There are some exceptions to creating new records that link to new stock assessments:

- 1) The new stock assessment results in an unknown overfishing/overfished determination, but the previous overfishing/overfished determination was known. In this case, no new overfishing/overfished status determination record should be created, but a note should be made in the Comments field indicating that the overfishing/overfished determinations are not based on the most recent stock assessment because the new assessment did not support an overfishing/overfished determination.
- 2) There is no stock assessment that supports the status determination (because the determination is based on a qualitative assessment). In such cases, the Overfishing/Overfished Basis field should be left blank. In the Comments field the citation should be noted.

7.1 Locate an Entity

1. Click on “Data Entry” on the menu and then click on the “Status Determination” item.
2. Search for the Entities that you would like to enter data for.
3. In the search result grid, click on the Edit icon of the entity.
4. The Edit Frame is displayed with the Entity’s name shown at the top.
5. If the Entity already has existing Status Determination records, the existing records’ year.month links will be displayed in the “record list panel”. The latest Status Determination record will be displayed in the Status Determination form.
Note: Depending on the user’s roles, the Edit Frame might display Overfishing Status Determination, Overfished Status Determination, and/or Status Determination.

The screenshot shows the 'Species Information System' interface. The top navigation bar includes 'Admin', 'Data Entry', 'Reports', 'My Account', 'Help', and 'Logout'. Below this is a toolbar with icons for 'Search Entities', 'Overfishing Status Determinations', 'Overfished Status Determinations', 'Status Determinations', and 'Comments'. The main content area is divided into two panels. The left panel, titled 'Status Determinations', shows a list of entities: 'Test Species Name2 - STOCK AREA 2' and 'Test Species Name4 - STOCK AREA 2', each with a 'Stock' status. The right panel, titled 'Status Determination of Test Species Name2 - STOCK AREA 2', contains a form for editing a record. The form includes fields for 'Status Determination Locked' (checked), 'Year Record Created' (2000), 'Month Record Created' (Jan), 'Management Action Required' (MAR 2), 'Rebuilding Program' (YES), and 'Rebuilding Program Progress'. Below these is a section for 'FSSI Score' with 'Calculated FSSI Score' (0.0) and 'Official FSSI Score (OFS)' (0.0). At the bottom, there are fields for 'OFS Effective Date' and 'OFS End Date'.

Figure 7.1 Screen shot displaying the status determination edit frame.

7.2 Lock/Unlock a Status Determination Record

Status determination records can be locked or unlocked only by authorized users. New status determination records will generally be locked at the end of each quarter to maintain a permanent record of that information. Once a record has been locked, no edits can be made to that record without contacting the Administrator to unlock the record.

7.3 Create an Overfishing Status Determination Record

1. Locate the Entity and click on the edit button next to the stock name in the search results grid.
2. Click on the “Overfishing Status Determination” button on the toolbar.
3. Click on the “New” button in the Edit Frame.
4. Enter data and click the “Save” button.

7.4 Update an Overfishing Status Determination Record

1. Locate the Entity (only records that are unlocked may be updated).
2. Click on the “Overfishing Status Determination” button on the toolbar.
3. In the record list panel, Click on the year.month link of interest to display the data in the data entry form.
4. Make changes to the data entry form.
5. Click the “Update” button to commit the changes to the database.

7.5 Overfishing Status Determination Data Fields

1. Overfishing Pre SFA and Overfishing Post SFA: The Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires that status determination criteria specify a MFMT or reasonable proxy thereof. If the overfishing determination is based on status determination criteria that are compliant with the Sustainable Fisheries Act (SFA), then it is considered post SFA. If the overfishing determination is based on status determination criteria that are not compliant with the SFA, then it is considered pre SFA.
2. FMP Overfishing Definition Used: Indicate whether or not the overfishing definition used to make the determination is contained in the FMP, or SAFE Report, in the case of Alaska stocks.
3. FMP Overfishing Definition Year: This is the year the overfishing definition in the FMP was approved.
4. FMP Overfishing Definition Month: This is the month the overfishing definition in the FMP was approved.
5. Based on Assessment: If the overfishing determination is based on a stock assessment, then the relevant year and month of the assessment is selected from the dropdown list in the Based on Assessment field. This will create a link between the overfishing record and the associated assessment record, and assessment data can be viewed by clicking on the “Assessment” button. In cases where more than one stock assessment is used for the overfishing status determination, the Regional contact should confer with the stock assessment Point of Contact (found on the Assessment page) to determine which assessment is the primary assessment supporting the determination. The primary assessment should be selected in the Based on Assessment field. Information on the additional assessments should be entered in the Comments section (see Section 8.0).
6. Overfishing Basis: The user should select the appropriate choice from the dropdown menu. For overfishing determinations that are not based on a stock assessment (i.e. catch data were used to support the determination), the Based on Assessment field should be left blank and Catch Data is selected as the Overfishing Basis. When a stock assessment link has been created for the record, the Overfishing Basis should be Stock Assessment.

7.6 Create an Overfished Status Determination Record

1. Locate the Entity and click on the edit button next to the stock name in the search results grid.
2. Click on the “Overfished Status Determination” button on the toolbar.
3. Click on the “New” button in the Edit Frame.
4. Enter data and click the “Save” button.

7.7 Update an Overfished Status Determination Record

1. Locate the Entity
2. Click on the “Overfished Status Determination” button on the toolbar
3. In the record list panel, Click on the year.month link of interest to display the data in the data entry form
4. Make changes to the data entry form.
5. Click the “Update” button to commit the changes to the database.

7.8 Overfished Status Determination Data Fields

1. Overfished Pre SFA and Overfished Post SFA: Overfished Pre SFA and Overfished Post SFA: The Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires that status determination criteria specify a MSST or reasonable proxy thereof. If the overfished determination is based on status determination criteria that are compliant with the Sustainable Fisheries Act (SFA), then it is considered post SFA. If the overfished determination is based on status determination criteria that are not compliant with the SFA, then it is considered pre SFA.
2. FMP Overfished Definition Used: Indicate whether or not the overfished definition used to make the determination is contained in the FMP, or SAFE Report, in the case of Alaska stocks.
3. FMP Overfished Definition Year: This is the year the overfished definition in the FMP was approved.
4. FMP Overfished Definition Month: This is the month the overfished definition in the FMP was approved.
5. Based on Assessment: If the overfished determination is based on a stock assessment, then the relevant year and month of the assessment is selected from the dropdown list in the Based on Assessment field. This will create a link between the overfished record and the associated assessment record, and assessment data can be viewed by clicking on the “Assessment” button. In cases where more than one stock assessment is used for the overfished status determination, the Regional contact should confer with the stock assessment Point of Contact (found on the Assessment page) to determine which assessment is the primary assessment supporting the determination. The primary assessment should be selected in the Based on Assessment field. Information on the additional assessments should be entered in the Comments section (see Section 8.0).

6. Overfished Basis: The user should select the appropriate choice from the dropdown menu. For overfished determinations that are not based on a stock assessment (i.e. a qualitative determination was made), the Based on Assessment field should be left blank. In the Overfished Basis field, the user should select the appropriate choice from the dropdown menu. When a stock assessment link has been created for the record, the Overfished Basis should be Stock Assessment.

7.9 Create a Status Determination Record

Status Determination records are not created directly but created when a new Overfishing Status Determination record or a new Overfished Status Determination record is created.

7.10 Update a Status Determination Record

1. Locate the Entity by using search criteria or selecting a Report Entity List
2. Click on the “Status Determination” button on the toolbar.
3. In the record list panel, click on the year.month link of interest to display the data in the data entry form.
4. Make changes to the data entry form (note: if record is locked, changes to the record cannot be made).
5. Click the “Update” button to commit the changes to the database.

7.11 Status Determination Data Fields

1. Management Action Required: The appropriate choice is selected from the dropdown menu, based on the overfishing and overfished status determinations. For example, stocks subject to overfishing require “reduce mortality” as the management action required. Stocks that are overfished and rebuilding require “continue rebuilding” as the management action required.
2. Rebuilding Program: For stocks that are contained in a rebuilding plan or are under rebuilding measures, “yes” should be selected from the dropdown menu. For stocks that are not contained in a rebuilding program because they have never been overfished, or stocks that are overfished but a rebuilding plan has not yet been implemented, “no” should be selected from the dropdown menu.
3. Rebuilding Program Progress: The current year and length of rebuilding plan are displayed in this field. The current year will be automatically updated annually in the month the rebuilding plan was approved according to the rebuilding plan information entered for the stock.

7.12 FSSI Score

The FSSI score is automatically calculated by the system using stock assessment numeric results, status determinations, and assessment summary information. The B/Bmsy that supports the most recent overfished determination is used in the calculation of the score. In some cases the overfishing/overfishing status determinations will not change as a result of a new stock assessment, but the FSSI score will because the B/Bmsy estimate has increased above or decreased below a threshold level (i.e. 80%).

There may be some cases where the FSSI score is not based solely on these factors. For such cases where the score has been modified at the discretion of the relevant NMFS regional office, the FSSI score can be changed manually by the Administrator only. Notes should be provided in the comments field whenever this occurs. For example, a stock may have a B/Bmsy greater than 80%, but does not receive a point for this because the NMFS regional office has determined there is great uncertainty for this estimate and does not have the confidence to award a point for this.

8.0 Enter Comments on SIS Records

In SIS, comments can be entered on multiple screens and at different levels.

1. Comments can be entered on the Stock Management screen, Stock Group Management screen, Assessment screen, and Status Determination screens. On each of these screens, click on the “Edit Comments” button on the toolbar after selecting an Entity. This will display the Comment Page.

The screenshot displays the 'Comments of Bacteria - 61' page in the SIS application. The top navigation bar includes 'Admin', 'Data Entry', 'Reports', 'My Account', 'Help', and 'Logout'. The left sidebar contains a 'Stock Search Criteria' form with fields for 'Stock Name', 'Science Center', 'Jurisdiction', and 'FMP', along with 'Search' and 'Reset' buttons. Below the search criteria, a list of results (1-22 of 22) is shown, including 'Bacteria - 61' and various stock areas. The main content area features a 'Comment Level' dropdown set to 'Assessment' and a 'Linked Record's Year.Month' dropdown set to '2001.1'. A text area for comments is present, with a note 'comments on 2001.1 assessment'. Below this, it states 'Created by SIS_TESTER on 11/11/2007' and 'Modified by SIS_TESTER on 11/12/2007'. There are 'Update', 'Delete', and 'New' buttons. At the bottom, a table lists existing comments with columns for 'Edit', 'Comment', 'Comment Level', 'Linked Record', 'Created By', 'Date Created', 'Modified By', and 'Date Modified'.

Edit	Comment	Comment Level	Linked Record	Created By	Date Created	Modified By	Date Modified
	comment on 2001.1 overfished SD	ovfIdSd	2001.1	SIS_TESTER	11/13/2007		
	comment on 2000.1 overfishing SD	ovfIgSd	2000.1	SIS_TESTER	11/13/2007		
	comment on SD 2000.1	sd	2000.1	SIS_TESTER	11/12/2007		
	comment at entity level test test	entity		SIS_TESTER	11/11/2007	SIS_TESTER	11/12/2007
	comments on 2001.1	asmt	2001.1	SIS_TESTER	11/11/2007	SIS_TESTER	11/12/2007

Figure 8.0 Screen shot showing the Comment page in the Stock Management frame.

2. Comments can be entered related to individual Assessment records, Overfishing Status Determination records, Overfished Status Determination records, or Status Determination records. Comments may also be entered related to the stock in general.

9.0 Create Reports

1. Select Reports item from the Reports menu to go to the Reports screen.
2. Select a report type.

The screenshot shows the 'SIS Reports' interface. At the top is a navigation bar with 'Admin', 'Data Entry', 'Reports', 'My Account', 'Help', and 'Logout'. The 'Reports' menu is active. Below the navigation bar, the 'Report Type:' dropdown is open, displaying a list of report types. The list includes 'Table A. Summary of Stock Status for FSSI Stocks', 'Adequate Assessment Statistic', 'Table A. Summary of Stock Status for FSSI Stocks', 'Table B. Summary of Stock Status for Non-FSSI Stocks', 'Table C. Status of Species Managed under International Agreement', 'Table D. Summary of Stock Status for Species NOT contained in Federal FMPs', 'Appendix 6a. Stock Status Determination Sources for Overfishing Determinations for Stocks Contained in Federal Fishery Management Plans', 'Appendix 6b. Stock Status Determination Sources for Overfished Determinations for Stocks Contained in Federal Fishery Management Plans', 'Appendix 7a. Stock Status Determination Sources for Overfishing Determinations for Stocks Managed under International Agreement', 'Appendix 7b. Stock Status Determination Sources for Overfished Determinations for Stocks Managed under International Agreement', 'Appendix 8a. Stock Status Determination Sources for Overfishing Determinations for Stocks Not Contained in Federal Fishery Management Plans', 'Appendix 8b. Stock Status Determination Sources for Overfished Determinations for Stocks Not Contained in Federal Fishery Management Plans', 'Appendix 2a. Overfishing and Overfished Definitions for Stocks Contained in Federal FMPs', 'Appendix 2b. Overfishing and Overfished Definitions for Stocks NOT Contained in Federal FMPs', and 'Appendix 2c. Overfishing and Overfished Definitions for Stocks Managed under International Agreement'. The 'Adequate Assessment Statistic' report type is selected.

Figure 9.0a Screen shot showing list of report types.

3. Enter report criteria.

The first screenshot shows the 'SIS Reports' interface with the 'Report Type:' dropdown set to 'Table A. Summary of Stock Status for FSSI Stocks'. Below the dropdown, there are input fields for 'Year:' (set to 2007), 'Quarter:' (set to First), 'Last Month of Quarter:' (set to March), 'Report Entity List to Apply' (set to All), and 'Output Format:' (set to Excel). A 'Run Report' button is visible at the bottom.

The second screenshot shows the 'SIS Reports' interface with the 'Report Type:' dropdown set to 'Adequate Assessment Statistic'. Below the dropdown, there are input fields for 'Assessment Level >=' (set to 3), '(Year to Report) - (Year Assessed) <=' (set to 5), 'FSSI Stock:' (set to YES), 'Science Center:' (set to Atlantic), 'Regional Ecosystem:' (set to Atlantic), 'Jurisdiction:' (set to SAFMC), 'FMP:' (set to Coral, Coral Reefs and Live/Hard Bottom Habitats of the South Atlantic Region), 'Years to Report:' (set to 2003, 2004, 2005, 2006, 2007), 'Output Columns:' (set to Update Type, Review Type, Assessment Level, Assessment Adequacy), and 'Update Type' (set to Review Type). A 'Run Report' button is visible at the bottom.

Figure 9.0b Screen shots showing the selection of report criteria.

4. Click on the “Run Report” button.
5. After viewing the report, the results can be saved by copying the table into a new excel file.